

SEQUENCE LISTING

5 <110> Council of the Queensland Institute of Medical Research

10 <120> Novel immunogenic lipopeptides comprising T-helper and B-cell epitopes

15 <130> 94946/MRO

<150> US 60/402838

20 <151> 2002-12-08

25 <160> 113

<170> PatentIn version 3.1

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Glu His Trp Ser Tyr Gly Leu Arg Pro Gly
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His Trp Ser Tyr Gly Leu Arg Pro Gly
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Glu His Trp Ser Tyr Gly Leu Arg Pro Gly
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Phe Gln Ile Lys Gly Val Glu Leu Lys Ser
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Gly Ala Leu Asn Asn Arg Phe Gln Ile Lys Gly Val Glu Leu Lys Ser
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Glu His Trp Ser Tyr Gly Leu Arg Pro Gly Lys Gly Ala Leu Asn Asn
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Arg Phe Gln Ile Lys Gly Val Glu Leu Lys Ser
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Leu Lys His Trp Ser Tyr Gly Leu Arg Pro Gly
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Ile Lys Glu His Trp Ser Tyr Gly Leu Arg Pro Gly
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5 Asn Lys Glu His Trp Ser Tyr Gly Leu Arg Pro Gly
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25 Ser Lys Glu His Trp Ser Tyr Gly Leu Arg Pro Gly
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45 Leu Lys Gly Leu Arg Pro Gly
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Ile Lys Gly Leu Arg Pro Gly
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Thr Ala Ala Gln Ile Thr Ala Gly Ile Ala Leu His Gln Ser Asn Leu
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Asn Lys Gly Leu Arg Pro Gly
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Ser Lys Gly Leu Arg Pro Gly
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Ser Lys Lys Lys Lys
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Gln

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Tyr	Lys	Ile	Met	Thr	Arg	Pro	Ser	His	Gln	Tyr	Leu	Val	Ile	Lys	Leu
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Ile

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25 Leu

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Leu Ile Glu Asn Cys Thr Lys Ala Glu Leu Gly Glu Tyr Glu Lys Leu
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45 Leu

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Ile

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Met

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Leu

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Arg

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Gly

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Ala

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Ala

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Gly Val Ala Leu Gly Val Ala Thr Ala Ala Gln Ile Thr Ala Gly Ile
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Ala

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Leu

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Asn Leu Asn Ala Gln Ala Ile Gln Ser Leu Arg Thr Ser Leu Glu Gln
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20 Ser

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35 Gln Ser Leu Arg Thr Ser Leu Glu Gln Ser Asn Lys Ala Ile Glu Glu
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40 Ile

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Thr

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Ser

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Ser

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Arg His Ser Thr Thr Ser Ala Gln Arg Ser Thr His Tyr Asp Pro Arg
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Thr

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Pro Arg Thr Ser Asp Arg Pro Val Ser Tyr Thr Met Asn Arg Thr Arg
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25

Ser

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His

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Ala

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Ser

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Thr

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Asn

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Ala

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Val

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Ser Ser Leu

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Ser Leu

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40 Pro Ala Pro Gly Ser Thr Ala Pro Pro Lys
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Gly Val Ala Glu
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Phe Arg Glu Arg Thr Leu Thr Gly Gln Arg Ala Cys Asn Asp Val Asn
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Ser Glu

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Thr Leu

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15 Lys Pro Val

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Ala Lys Leu
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Val Val
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Val Gly Val

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Ser Gly Ala Pro Pro Thr Asp Leu Gln Lys Met Val Met Gly Asn Thr
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Lys Pro Val

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Asn Lys Tyr Ser Ala Ser Gly Ser Gly Val Arg Gly Asp Phe Gly Ser
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45 Ala Ile Lys
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5 Leu Tyr Thr Lys Val Val His Tyr Arg Lys Trp Ile Lys Asp Thr Ile
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30 Cys Tyr Ala

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10 Cys Ala Gln Val His Pro Gln Lys Val Thr Lys Phe Met Leu
1 5 10

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25 Tyr Leu Met Leu Leu Arg Leu Ser Glu Pro Ala Glu Leu Thr Asp Asp
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Val Phe Gln Val Tyr
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30 Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala Pro
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Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr
20 25 30

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Pro Ile Leu Pro Gln
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Ile

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20 Val Met Ser

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10 Gly Ser Ile Thr Arg Asp Ser Ile Phe Arg Leu Arg
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Val Lys Leu Leu Arg Glu Pro Ile Tyr Val Glu Val
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Pro Pro Ala Gln Tyr Ser Trp Leu Ile Asp Gly Asn
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Ala Asn Ala Ser Gln Thr Asp Asn Gly Val Asn Arg Ser Gly Ser Glu
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Asp Pro Thr Val
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Ala Ser Ala Phe
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45 Asn Pro Ser

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25 Ser Lys

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Cys Lys Tyr Ser Ala Ser Gly Ser Gly Val Arg Gly Asp Phe Gly Ser
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Ala Ile Lys Asn Lys Tyr
35

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30 Gln Lys Trp Asp Ala Thr Ala
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20 25

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45 Gly Trp Met Asp Phe
1 5

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10 Leu His Trp Ser Tyr Gly Leu Arg Pro Gly
20 25

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30 Leu Gly Leu Arg Pro Gly
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35 40 45

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1 5 10 15

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20 25 30

20

Lys Gln Val Glu Lys Ala Leu Glu Gln Leu Glu Asp Lys Val Lys
35 40 45

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Gly Ala Leu Asn Asn Arg Phe Gln Ile Lys Gly Val Glu Leu Lys Ser
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Lys Gln Ala Glu Asp Lys Val Lys Ala Ser Arg Glu Ala Lys Lys Gln
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15 Gln Val Glu Lys Ala Leu Glu Gln Leu Glu Asp Lys Val Lys
35 40 45

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